

## **ABSTRACT OF THE DISCLOSURE**

2           An eye diagram analyzer equips each SUT data and clock signal channel with  
individually variable delays. A specified combination (data signal delay, threshold and  
4       which channel) is a location on an eye diagram, although the trace may or may not ever  
go through that location. A counter counts the number of SUT clock cycles used  
6       and another counter counts the number of times the specified combination of conditions  
was met ("hits"). After watching a specified combination for the requisite length of time  
8       or number of events, the number of SUT clock cycles involved and the associated number  
of hits are stored in memory using a data structure indexed by the specified combination.  
10      The process is repeated until all possible combinations within a stated range of data signal  
delay and threshold voltage (using specified resolution/step sizes for delay and voltage)  
12      have been investigated.